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AN ANALYTICAL STUDY ON SUSTAINABILITY IN URBAN ARCHITECTURE
WITH SPECIAL REFERENCE TO RESIDENTIAL BUILDINGS IN COLOMBO.

A Dissertation Submitted to Department of Architecture of the



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In partial fulfillment of the requirements for the degree of

Master of Science in Architecture

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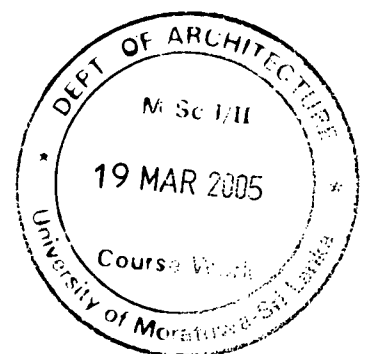
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To whom it may concern

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Contents

Page No

List of contents	i
List of illustrations	iii
Acknowledgement	v
Forward	vi
Abstract	vii

Introduction

Observation	01
Critical nature of the problem	
Intention of the study	
Scope and Limitation	
Methodology	

Chapter ONE

Sustainability in Architecture



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Preamble

1.1	Sustainability- an Introduction	03
1.1.1	Sustainability- as age old wisdom	03
1.1.2	Sustainability- Relevance	04
1.1.3	Sustainability- A definition	05
1.2	Sustainability and Architecture	05
1.2.1	Sustainability as Architect's Responsibility	05
1.2.2	Sustainability- principles in practice.	06

Chapter TWO

Urbanity and Sustainability

Preamble

2.1	Concepts of Urbanity: an historical perspective	08
2.1.1	Medieval cities	09
2.1.2	Renaissance	09
2.1.3	Industrial cities.	10

2.2	Modern urban city	11
2.2.1	Characteristics of urbanity	11
2.2.2	Living in the city	11
2.2.3	Urbanity & sustainability	12

Chapter THREE

Sustainability in Urban Architecture

Preamble

3.1	Urbanism and sustainability as two contradiction concepts.	14
3.1.1	City as a major user of energy.	14
3.1.2	Green solutions – away from the city	15
3.1.3	Green solutions: in the city.	17
	3.1.3-a a universal town of Auroville , India	18
	3.1.3-b Ecological capital of Brazil-Curitiba	19
3.2	Urban Architecture towards Sustainability	21
3.2.1	Sensitivity to Natural Elements.	21
	3.2.1.a Orientation	21
	3.2.2 Sensitive use of Materials	22
	3.2.2.a Choice of Material	22
3.2.3	Sensitivity to Context	23
3.2.4	Respect for user	23

Chapter FOUR

Case studies

4.1	Case study one	25
4.2	Case study two	28
	Conclusion	39
	Bibliography	40

- Fig.1 Making ones own home: home making is a family act, and mud plastering is always confined to women.
- Fig.2 Mud house
- Fig.3 Deforestation, Tofino Creek, Canada, 1993
- Fig.4 Excessive drought, Senegal, 1997
- Fig 5 Transporting earth
- Fig 6 Construction site
- Fig 7 Chart: energy consume in the life of the building
- Fig 8 The Acropolis
- Fig 9 Hill Town, Southern Italy, c. 1400
- Fig 10 Aerial view of Caracas, Venezuela, 1993
- Fig 11 Great Exhibition, 1851
- Fig 12 New Hong Kong- skyline- night
- Fig 13 New Beijing: gridded by roaring highways
- Fig 14 Urban housing, New York, USA and Wellawatta, Sri Lanka
- Fig 15 Trafalgar square
- Fig 16 Construction –excavation – Auroville- Universal Township
- Fig 17 Nuclear power station Sir Basil Spence Trawsfynydd, Wales 1959
- Fig.18 “Aegean Sea” oil spill La Coruna, Spain. 1992
- Fig 19 Bio- Cycles Source: David Lloyd Jones, 1998
- Fig 20 Portable architecture Cohos Evamy Partners Alberta, Canada 1967
- Fig 21 Linear metabolism
- Fig 22 Yeang’s proposal for Bishops gate in London. A style stronger than ecological imperatives?
- Fig 23 Proposal for a museum of American Architecture
- Fig 24 Proposal for a museum of American Architecture
- Fig 25 Curitiba - Universal Township Curitiba is a thriving example of how to 'dismantle' a problem before it starts.
- Fig 26 Design principles Source: Ken Yeang, 1994, p28
- Fig 27 Drop city, Colorado, built of panels cut from the roofs of scrapped cars and vans.

Fig 28 Straw, generally viewed as an inconvenient waste product of agriculture can be converted in to useful building boards for partitions and interior linings

Fig 29 Heineken's specially designed WOBO beer bottles, reused as a house wall

Fig 30 Brunsell Residence Obie Bowman Sea ranch, California,USA. 1987

Fig 31 Harmony with landscape



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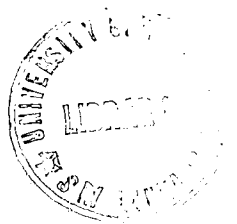
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Forward

The Architect must be a prophet,
A prophet in the sense of the world;

If he can't see at least ten years ahead then
Don't call him an Architect.



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Frank Lloyd Wright

Abstract

Although man seems a much-developed creature from his days of the jungle, he still is a part and parcel of a natural order of things. Man's development is reflected through his construction and technological improvements. Yet these in the long run has incurred damage and lost to the environment. Therefore the 20th century, foreseeing a future crisis and already arisen problems, became much aware of the issue of sustainability. This is an attempt to understand the broad scope of sustainable design. This study is a distillation of existing sustainable design theories, strategies, principles and guidelines with a focus on an urban Residential Buildings.

A holistic perspective on this topic result in a much clearer understanding of the concept of sustainability, as well as a better grasp of how to steer the design industry towards more sustainable practices. It is important to note here, that this study is focused on sustainable design applicable to urban context and Residential Buildings. In the actual situation, the designer can never hope to reach absolute sustainability, but must strive to approach it to the limit of his capabilities. This analogy underlines one of the main goals of this study, that is, to take the existing knowledge of sustainable design, which has so far been applied in bits and pieces, and combine them all to create the most complete strategy possible.

Introduction

Observation

Sustainable Architecture, in the 70's and early 80's has been a concept practiced away from the cities and people could afford to live in a country side cottage, grow their own vegetables etc. But today, in spite of the still remaining bad effects of the city, people are willing to and most attracted to live in the city. Due to these reasons, the European urban cities which consumes a major amount of energy in their day today activities, has shown interest in sustainable practice in urban context. Further it was observed that sustainable practice could be introduced in to every piece of Architecture with out much difficulty in grass root level. It is this observation which brought the main ideas behind this dissertation

Critical Nature of the Problem

Though architecture man alters earth, and uses up its resource coursing irreparable damage. Architecture or rather building construction is one major area where there is consumption of resources is high.

This dissertation considers the immense consumption of energy through building and looks at its, still immense possibilities of minimizing of energy consumption by using creative and inventive thinking in architecture. The environmental and energy crisis of the world has come to such a critical state, energy consumption on earth every action of man should be conscious of the problem. In this scenario, Architects has immense responsibility in the decisions they make from the design stage to Building construction.

Intention of the Study

This dissertation focus on sustainable architecture in urbanity as a pressing need for the contemporary times two major factors are looked at in the relevance of sustainability in urbanity. Firstly it was understood that the process of urbanization cannot be curtained, cities are becoming home for more and more people. Secondly cities do consume a massive amount of energy and cause great deal of damage to the bio sphere. Therefore this focus on to two main areas in architecture: one is to explore how creativity can exceed the restrictions placed by the urban context in achieving sustainability. Further to express the simple yet efficient strategies that can be practiced on a regular basis to achieve sustainability. Sustainable architecture is a response to awareness and not a prescriptive formula for survival. It is a new attitude and way of looking at the world. It demands that the expectations for material qualities in our lives must be decreased it represents mane survival at the expense of improved quality of life.

Scope and limitations

'Sustainable' architecture could not be defined clearly by drawing a line. It could be vague and quite undefined. Therefore the dissertation one has to work with in a theoretical framework of definition for sustainable architecture. Issues of sustainability and sustainable designs are extremely broad and wide ranging. Therefore Sustainable design could have many different meanings and interpretations depending on perspective and scale. Much of this has been discussed in chapter one.. The nature of sustainable design holds the designer responsible for all the environmental effects of the design on the eco-system. Taken to the extreme, this would mean that the designer must take the entire earth's eco-system into account.

Area of the study is too vast and has to be narrowed down to residential buildings facilitate the study with the time frame. My own personal architectural background and preference for physical design issues channeled this study toward a design perspective as opposed to a planning perspective. Being an architectural thesis, "hard" or physical design issues will be the priority of this study. Economic, social and political issues of sustainability, although equally important, are not as readily accessible to strategies of sustainable design and therefore, will be addressed only in relation to design issues. And this study should show that there is a need for studies on the sustainability of urban system.

Method of study

The study would be carried out from a theoretical framework. A clear definition for sustainability is needed. The relationship of architectural style and sustainability has to be established. This hypothesis is to be proved through case study. It intends to establish a good parameter to scale "sustainability" within the framework of study.



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